

MALLARMÉ'S CIGAR-SONNET: PART 2

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Introduction. This article is the second in a series analyzing Mallarmé's hermetic sonnet, *Toute l'âme résumée* (The whole soul summed up), which he published as "a game" in 1895. In the previous part (February 1996), we showed how the poem's internal dynamic processes are designed around a cryptogrammatic sequence which begins when the letters of *la cendre* ("ash") are subtracted from *son clair baiser de feu* ("its bright kiss of fire"), so as to yield an eleven-letter residue, *SOIR BAIS FEU* which is then subjected to further processing.

Before filling in the remaining steps in the poem's cryptogrammatic sequence, including the derivation of its hidden cigar-name, we must first survey some additionally arcane aspects of Mallarmé's technique. At the end of this part, we present the DORT/TROD Diagram for the Cigar-Sonnet, which was constructed by overlaying on a line-by-line basis the poem's backward version atop its forward one, following the removal of all interword spaces. This diagram is one of Mallarmé's most powerful representational tools, since it provided him with a means for juxtaposing one part of his text with another, thereby creating significant letter-groupings (i.e., logograms) which must then be subjected to further interpretation.

One gimmick Mallarmé employed in constructing this diagram was to first restore elided letters such as the missing *a* in *l'âme* and *l'expirons*. When this is done, its effects can be seen (for example) at the right end of Layer 7, where the word *sépare* has overlaid itself, demonstrating that it is the poem's central word, and additionally signifies its most important operation, letter-subtraction. It is also a homophone for *c'est par*, meaning "it is equal (to 100)," which suggests that mathematical relationships or equalities may play a role. As an acronym, *c'est* is additionally significant, since it signifies the astronomic phenomenon that lay at the core of Mallarmé's metaphysics. Here *C* stands for comet, *E* for the Earth, *S* for the Sun, and *T* for transit, the phenomenon in which a comet passes between the Earth and the Sun, as occurred on 30 June 1861 and 17 September 1882.

Also in Layer 7, we notice that the letters in *la cendre* have lined up immediately beneath the right end of the backwarded *son clair baiser*.; this hints at the letter-subtraction operation which begins the poem's decipherment sequence. As was noted in the first part, this operation was intended as a verbal analog to suggest the loss of matter ("ash") which occurs when a comet is near perihelion, and also specifically

replicates the event of 30 June 1861, in which sunlight reaching the Earth was filtered through the tail of Tebbutt's Comet.

The Role of Number. One of the most impressive aspects of Mallarmé's hermetic technique is the extent to which he was able to imbue his works with a hidden numerical component. For example, when the letters of *la cendre* were subtracted from *son baiser de feu*, we failed to note that the aggregate numerical value of these two phrases manifests a simple relationship: if $A=1$, $B=2$, etc., the value of the minuend is 186 and the subtrahend is 62, placing them in the relationship 3:1. What Mallarmé may be indicating via this is that the letter-subtraction operation is "as easy as 1-2-3." Also, if we order the respective masses of Sun, Earth, and comet, we find that the Sun (the minuend) is greatest, the Earth (the difference) comes next, and the comet (the subtrahend) is third, showing that the relative numerical values of the phrases that participate in this operation are consistent with the celestial event Mallarmé is attempting to analogize.

The Modern Pythagoras. Mallarmé's attempt to infuse his hermetic writings with a disguised numerical component represents probably the most successful modern instance of Pythagoreanism in literature; like the ancient Greek sage, Mallarmé apparently believed that "number lies at the root of all things." Pythagoras's view (as it has come down to us) was that numbers were not simply convenient but ancillary devices for measuring and counting. Rather, he ascribed to them a unique independent existence as entities in their own right, and viewed them as intermediaries between the sensory world and the world of ideas.

Also underlying Mallarmé's use of number is the fact that many ancient civilizations (Greek, Hebrew, Roman) did not have an independent set of digits, but were forced to make letters do double duty as numerical signs. This later gave rise to the kabbalistic concept that "every letter is a number" and vice versa. But Mallarmé did more than simply convert letters to their numerical equivalents, since he also utilized every possible means for introducing numerical relationships into his texts, such as use of positional notation, letter-frequency counts, and the like. Hence, when we encounter a word such as *résumé* ("summed up again"), it must be construed in a mathematical, and not simply a metaphorical, sense. The big problem is to determine exactly what has to be summed up again and what the result could possibly signify.

The Morphological Letter. When we examine certain letters, it is not difficult to see that they are composed from a fusion of subsidiary letters: for example, $c+1 = d$. Hence, if we wanted to count the number of c's in a text, we might also have to take into account those letters which contain c as a typographical component, such as d, e, o, and q. Mallarmé was very fussy about his typography because he often employed such a technique to imbue his texts with a hidden numerical aspect.

In the *Cigar-Sonnet*, the counting component employed by Mallarmé is "morphological 1," as is hinted at by the construction *l'âme*. We normally read this as "the soul," but esoterically it means "1-soul." The upright

stroke is, of course, the original tally-mark, and it appears morphologically in no fewer than 20 letters, constituting a score: b,d,h,k,l,p,q,B,D,E,F,H,I,K,L,M,N,P,R,T. When we count up all the occurrences of "l" in the poem, we find that it appears 18 times on a stand-alone or ordinary basis, and 29 times as a component of letters, for a total of 47. Although these numbers do not yet appear to convey any especial significance, they will occur again.

The Grand Summation. The next step in this process is to prepare a table in which the poem's morphological l-components are tabulated on a line-by-line basis (Col. A, Col. B). Additionally, a tabulation can be made of the running totals for the

	Col. A	Col. B	Col. C	Col. D
	Poem's	Number	Running	Running
	Line	of l-	Totals,	Totals,
	Number	Forms	Col. B	Col. C
line-by-line l-counts (Col. C), and				
when these 14 running totals are				
summed they come out to 360. We				
have arrived at an astronomically				
significant number, representing the				
completion of a circle (or cycle) as	1	2	2	2
well as the heliocentric longitude of	2	4	6	8
the Earth on the date of the autumnal	3	5	11	19
equinox, when the astronomic year is	4	3	14	33
said to begin (in 1881, on September	5	3	17	50
22 at 21.50 hours). If we attempt to	6	4	21	71
connect this number with Comet 1882	7	3	24	95
we find several interesting corres-	8	4	28	123
pondences: (a) in miles per second,	9	3	31	154
360 is a rough approximation to a	10	4	35	189
sungrazing comet's highest known	11	2	37	226
perihelion velocity, (b) at 3:56 p.m.	12	5	42	268
on September 17, 1882, Comet 1882 II	13	3	45	313
passed its equinoctial colure at a	14	<u>2</u>	<u>47</u>	<u>360</u>
heliocentric longitude of 360 degrees,		47	360	1911

(c) it takes about 360 minutes for such a comet to completely "round" the Sun, thereby being shunted from an incoming to an outgoing path, (d) measuring from the autumnal equinox of 1881, this comet's transit, perihelion, high point, and nodal passages all occurred on the 360th day following the beginning of the astronomic year 1881-82.

Since the Cigar-Sonnet deals esoterically with the soul-cycle, as symbolized by a comet's return to perihelion, it was quite appropriate for Mallarmé to use 360 as a numerical symbol embodying the same concept, and we arrive at 360, one of the poem's arcana, through a "resumming" process involving its l-components. Here, "l" is also the initial for lueur ("glimmer, glimpse, pale light"), which describes the comet's physical appearance, while the letter's name is homophonous with elle ("she") and aile ("wing"); this may serve to suggest why Mallarmé often depicted the comet as a wing or a fan, or endowed it with female attributes, as part of his concealment technique.

Many Happy Returns. In Col. D of the tabulation, we show line-by-line running totals for the entries in Col. C. Of course these are purely artificial numbers, but when they are summed they produce a significant result. When Mallarmé wrote the poem, 1911 represented the anticipated

year of return for Comet Halley, which has a period of about 76 years, and which had last appeared in 1835. No discussion of comets is complete without some mention of Halley's, the most famous and dependable of all, and the comet which first established periodicity of the phenomenon. Moreover, unlike the sun-grazers (whose orbital paths are extremely elongated), Halley's orbit is cigar-shaped and so represents the perfect astronomical embodiment of Mallarmé's cigar.

In actuality, the comet's next appearance came a little earlier (1910), thanks to a gravitational fillip by Jupiter, but this was impossible to anticipate by astronomers of the early 1890s, and so, at the time Mallarmé's poem was conceived, 1911 would have seemed the most reasonable date of return. I believe that the "resummed" date of 1911 was deliberately factored by Mallarmé into the poem's construction, and so represents part of its "l-soul," since we arrived at it through an extension of the process that yielded 360.

The Personal Factor. It is also possible to profitably employ the same "resumming" process with the numerical values of the letters in the poem's opening line. Here, the simple sum of

	Letter	Running
	Values	Totals
letter-values comes out to 198 which does		
not seem especially significant. But when		
we perform a tabulation of running totals,		
they sum to 1847, a number that, divided		
into two pairs of digits, appears to recapitulate	T	20
the poem's l-count: 18 normal l's, 47 over all	o	15
occurrences of the l-form. Furthermore, it is	u	21
not necessary to look very far to ascertain this	t	20
number's personal significance to Mallarmé, since	e	5
it marks the first of his youthful tragedies: the	l	12
year of his mother's death. Thus, via this tedious	â	1
and problematic process, we arrive at the ultimate	m	13
symbolic association of <i>elle</i> and comet: Mallarmé	e	5
envisages his mother's soul returning in the form	r	18
of a comet, constituting his divine sign, his guar-	é	5
dian and protector. (Notice also that the central	s	19
six letters of the line spell out <i>la mère</i> .) The en-	u	21
tire poem is a propitiatory exercise for the repose	m	13
of his mother's soul.	é	5
	e	5
		<u>198</u>

Conclusion of the Cigar Cipher. As we left this 198 1847
in the first part of this article, we were supposed
to perform two additional steps on the residue letters, SOIR BAIS FEU,
and then subject them to some "four bias" or "basis four" operation in
order to arrive at the poem's hidden cigar name. Here is the solution:

Step 4: Add H to the residue letters. These twelve letters may now be
anagrammed to form HIES FOUR BIAS, as well as a variety of other
recombinations. The justification for adding H, the aspirant letter, is
contained in a rather humorous concept which was bandied about toward
the end of the 19th century, to the effect that every spoken utterance
automatically contained it (Bombaugh, *Oddities and Curiosities of Words*
and Literature, page 31 in the Dover edition). Because the poem speaks
of "exhalation" (line 2), this presumption does not seem overly far-

fetched. In addition, since H in France is called "ash", it is allusively equivalent to *la cendre*, which we subtracted in Step 3, and so replaces what had previously been removed. If we arrange the eleven residue letters to spell 'IS FOU BAISER, this represents a case in point, since both in French and Cockney initial H is seldom pronounced. The real cryptogrammatic reason for adding H is because it is needed to produce a D in the poem's hidden cigar-name, via the letter transformation described below.

Step 5: The twelve letters are now alphabetized and arranged in three groups containing four letters each: A B E F, H I I O, R S S U.

Step 6: This is the cryptogrammatic transformation *per se*. It represents a modified form of the Caesar cipher of antiquity, in which plain-text letters are displaced a determined number of positions in alphabetic sequence, so as to arrive at the ciphertext. Mallarmé apparently gave the name "four bias" to his variant on this cipher-method because the first three letters in each group are shifted backwards four positions in alphabetic sequence, while the fourth letter is shifted backward only three, producing the following result:

Input Letters	A	B	E	F	H	I	I	O	R	S	S	U
No. Places Shifted Backward	4	4	4	3	4	4	4	3	4	4	4	3
Resultant Output Letters	W	X	A	C	D	E	E	L	N	O	O	R

Step 7: At first glance, the output letters do not seem highly indicative, but they can be rearranged to form CORONA DE LWXE, which represents an almost-perfect cigar-name, save for the fact that W has replaced U in LWXE. Even more importantly, they also signify an astronomical phenomenon: namely, the spectacle of a sun-grazing comet at perihelion, at which point its tail embellishes the brightness of the Sun's corona. Astronomers of today know precisely what this looks like, since on 21 October 1965 Comet 1965 VIII (the "twin sister" of Comet 1882 II) was photographed rounding the Sun, and this photo has since been republished in numerous astronomic texts. Another way of rescrambling the twelve output letters yields ENCODE LAX ROW, which appears to refer to the bottom row in the transformation process (Step 6), since these letters lag in alphabetic sequence behind the top row. Hence, considering this in conjunction with HIES FOUR BIAS, it appears as though Mallarmé's cryptogram has the capacity of defining itself through an appropriate rearrangement of its component letters.

Step 8 (The Second Flicking of Ash). Decipherment of the poem's hidden name at last provides us with a real cigar from which to logologically flick the ash--that is, from which to subtract *la cendre*. This operation, which we initially performed on *son clair baiser de feu*, presents the fulfillment of Mallarmé's implicit instructions in lines 7 and 8 of the poem: a real cigar is not kept burning by removing the ash just once, but it must be done again. Similarly, the boiling off of cometary debris occurs every time the comet nears the Sun, and since we are dealing with periodic comets, this operation, too, must be envisaged as repetitive. It is therefore not difficult to understand why a second flicking of ash (via letter-subtraction) is important in fulfilling the poem's underlying idea-complex, which also involves the soul-cycle,

as described in Book X of Plato's Republic (the famous Myth of Er). To show that this not an ancillary association, *la cendre* may easily be anagrammed into ER CANDLE which is another cometary representation:

corona de lwxe	the hidden cigar name
<u>c r n a d e l e</u>	<i>la cendre</i> is subtracted
o o wx	the final residue

Step 9 (Analysis of Results). This "final" residue consists of an entirely new (and greatly reduced) set of letters. Here, "0 0" represents two smoke rings, in fulfillment of lines 3 and 4 of the poem. It also symbolizes two orbital cycles, signifying that the "comet" is periodic. In mathematics, "0,0" represents the origin point--the central or zero point of a coordinate system from which all numeration commences. This ties in specifically with Comet 1882 II, which had its "origin" at the same perihelion point, as a result of the nucleus fragmentation of Comet 1106. The "origin" concept also links with Orphic doctrines which postulated that the soul originally descended from Heaven to Earth and would eventually reascend to its heavenly abode; hence, it ties in with Mallarmé's catasterism, in which he viewed the comet as representing the soul of his mother, or other deceased members of his family.

As an astronomical symbol, "W" means "spatial velocity relative to the Sun." This value reaches zero at the comet's perihelion and aphelion, since at these points it is neither approaching nor receding from the Sun; hence the equation $W = 0$, formed from two of the "final residue" letters, is applicable to the perihelion moment. The significance of "X" as a symbol is much more widespread; for one thing, it can signify "a crossing," and at perihelion, the comet crosses its line of apsides (equivalent to the major axis of its elliptical orbit). Hence, if we were to superimpose this orbit on a coordinate grid, so that the line of apsides coincided with the y-axis, its x-value would reach zero at perihelion and aphelion, thus enabling the two remaining "final residue" letters to be linked by the equation $X = 0$. This clearly shows that these four "final letters" are by no means random leftovers, but are pertinently related to the concept Mallarmé is attempting to convey: that of a comet's perihelion, and further demonstrate that he views the comet in a mathematical as well as a metaphysical context.

Another Comet-Sighting. Further evidence that Mallarmé was familiar with the use of "W" as an astronomic symbol may be drawn from his cometary poem *Petit Air I* which was published less than a year before the Cigar-Sonnet, and which likewise focuses on the perihelion and transit of Comet 1882 II. Here, the letter-configuration which represents the comet is a *coté* ("by the side") which in the poem's DORT/TROD diagram is located directly between Mallarmé's representation for the sun (*sol*) and his representation for the Earth (*geo*).

The first step in "recovering" this comet is to combine the three accent marks over a *coté* to form *w*, which is then inverted into *m*. Next, this synthetic letter is combined anagrammatically with a *coté* to spell *cometa*. In the DORT/TROD diagram, the direction of data-flow is leftward for a *cote* but rightward for *sol* and *geo*, thus suggesting that the

comet is retrograde (as was Comet 1882 II). There is a great deal more to this analog, one of the most elaborate Mallarmé ever devised.

Some Further Parallels. Just as the first "subtraction of ash" was intended to logologically simulate the passage of Tebbutt's Comet between Earth and Sun on 30 June 1861, so the section "subtraction of ash" purports to replicate the transit of Comet 1882 on 17 September 1882. This event is linked with the "corona de lwxe" since this comet actually passed through the Sun's corona. In addition, shortly following perihelion, Comet 1882 II disintegrated into four sub-nuclei which are he simulated by the four residue letters (O,O,W,X). When the numeric values of these four letters are summed, they total 77, representing the duration (in minutes) of this comet's transit.

Another way of anagramming *la cendre* would be *en cadre*: 1 ("1 in framework"). As an astronomic symbol, "1" refers to a comet's longitude of perihelion, one of its most distinguishing characteristics, which for Comet 1882 II was pegged at 282.24 degrees heliocentric. Now, whether by coincidence or not, there are 283 letters in the Cigar-Sonnet: that is, one for each whole or partial degree in the perihelion longitude. Two more anagrams on *la cendre* are *cran de l'e* and *edel cran*, where *cran* can means "minute amount," *edel* means "fine, noble," and *e* is the accepted astronomic symbol for eccentricity, which is more pronounced in the case of sungrazing comets than for any other orbiting body. Some of these comets attain *e*-values of .9999, meaning that their elliptical orbits differ only slightly from hyperbolas. What I detect in this symbolic complex is an attempt by Mallarmé to focus attention on this minute difference and elevate it to the level of a metaphysical phenomenon, which would be consistent with his overall comet-worship.

Recapitulation. Some reasons for believing that Mallarmé's Cigar-Cipher has been correctly solved include the following:

1. We arrived at the name of a specific high-quality cigar which at the same time denotes an astronomic phenomenon that fascinated Mallarmé
2. The two successful subtractions of *la cendre* simulate two flickings of ash, and also suggest two returns to perihelion by the comet
3. The cryptogram's input and output letters may be anagrammed respectively into HIES FOUR BIAS and ENCODE LAX ROW, suggesting that the cryptogram is describing itself
4. *La cendre* was found directly under *son clair* in the DORT/TROD diagram, while *separe* constituted its central word
5. The orbit of Halley's Comet (the poem's hidden image) is cigar-shaped
6. The "game" implicit in this cryptogram satisfies Mallarmé's description of the poem as *un jeu*

Text-Reversal Overlay Diagram (DORT/TROD) for Mallarmé's Cigar-Sonnet

overlay layer 1	290	erutaréttileugava Toutelaâmerésumée	272
overlay layer 2	307	TerutarsicérpportsneseLl Quandlentenouslaexpirons	248
overlay layer 3	331	iveuqecrapleéreLsecnemmoc Dansplusieursrondsdefumée	223
overlay layer 4	356	utisne-sulcxEli-t-e Abolisenautresronds	204
overlay layer 5	375	lovervèlalAsecnamors Attestequelquecigare	184
overlay layer 6	395	edrueohcelisniAuefedres Brûlantsavammentpourpeu	161
overlay layer 7	418	iabrialcnoseDerapés Quelacendresesépare	142
overlay layer 8	437	eserdnecaleuQuepruopt Desonclairbaiserdefeu	121
overlay layer 9	458	nemmavastnalûrBeragiceuq Ainsilechoeurdesromances	97
overlay layer 10	482	leuqetsettAsdnors Alalèvrevolet-il	80
overlay layer 11	499	ertuanesilobAeémufedsd Exclus-ensitucommences	58
overlay layer 12	521	norsrueisulpsnaDs Leréelparcequevil	41
overlay layer 13	538	noripxealsuonetneldnau Lesenstropprécisrature	19
overlay layer 14	560	QeémuséremâaletuoT Tavaguelittérature.	1